

CLAIMS:

1. A bicycle pedal for releasibly engaging a cleat affixed to the bottom of a shoe, said pedal comprising:

a spindle with a thread on one end for attachment to a bicycle crank arm;

a housing that rotates about said spindle; and

a spring loaded latch mechanism that pivots concentrically with the axis of said spindle, wherein said latch mechanism comprises:

a plurality of substantially U-shaped members; and

at least one spring that holds said U-shaped members apart from each other at substantially equal angles of spacing;

wherein said latch mechanism allows engagement with said cleat between adjacent pairs of said U-shaped members.

2. ^{Ins} ~~Claim~~ ¹ wherein said spring has a coil axis that is substantially coincident with said axis of said spindle.

3. ^{Ins} ~~Claim~~ ² wherein two of said U-shaped members are affixed to said housing and other said U-shaped members pivot on said housing.

4. ^{Ins} ~~Claim~~ ² wherein all of said U-shaped members pivot on said housing.

5. ^{Ins} ~~Claim~~ ³ wherein said housing rotates about said spindle on at least one bearing.

6. ^{Ins} ~~Claim~~ ⁵ wherein said pedal is substantially symmetric about the axis of said pedal along each of two perpendicular planes.

7. ^{Ins} ~~Claim~~ ⁶ wherein said U-shaped members are formed in part by bent wire.

8. A bicycle pedal for releasibly engaging a cleat affixed to the bottom of a shoe, said pedal comprising:

a spindle with a thread on one end for attachment to a bicycle crank arm;

a housing that rotates about said spindle; and

a spring loaded latch mechanism that pivots concentrically with the axis of said spindle, wherein said latch mechanism comprises:

a plurality of hooked members; and

at least one spring that holds said hooked members apart from each other at substantially equal angles of spacing;

wherein said latch mechanism allows engagement with said cleat between adjacent pairs of said hooked members.

9. ~~Claim 8~~ wherein said spring has a coil axis that is substantially coincident with said axis of said spindle.
^{1A7}

10. ~~Claim 9~~ wherein two of said hooked members are affixed to said housing and the other of said hooked members pivot on said housing.
^{1A8}

11. ~~Claim 9~~ wherein all of said hooked members pivot on said housing.
^{1A9}

12. ~~Claim 10~~ wherein said housing rotates about said spindle on at least one bearing.
^{1A10}

13. ~~Claim 12~~ wherein said pedal is substantially symmetric about the axis of said pedal along each of two perpendicular planes.
^{1A11}

14. ~~Claim 13~~ wherein said hooked members are formed in part by bent wire.
^{1A12}

15. A bicycle pedal for releasibly engaging a cleat affixed to the bottom of a shoe, said pedal comprising:

a spindle with a thread on one end for attachment to a bicycle crank arm;

a housing that rotates about said spindle; and

a spring loaded latch mechanism that pivots concentrically with the axis of said spindle, wherein said latch mechanism comprises:

a plurality of substantially rectangular shaped members having four sides, at least one said rectangular shaped member having a hub-like device built into two opposing ones of said sides; and

at least one spring that holds said rectangular shaped members apart from each other at substantially equal angles of spacing;

wherein said latch mechanism allows engagement with said cleat between adjacent pairs of said rectangular shaped members.

16. ~~Claim~~ ^{AA13} 15 wherein said spring has a coil axis that is substantially coincident with said axis of said spindle.

17. ~~Claim~~ ^{AA14} 16 wherein one of said rectangular shaped members is affixed to said housing and the other said rectangular shaped members pivots on said housing.

18. ~~Claim~~ ^{AA15} 16 wherein all of said rectangular shaped members pivot on said housing.

19. ~~Claim~~ ^{AA16} 17 wherein said housing rotates about said spindle on at least one bearing.

20. ~~Claim~~ ^{AA17} 19 wherein said pedal is, except for said spring or springs, substantially symmetric about the axis of said pedal along each of two perpendicular planes.